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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,132	08/29/2005	Malcolm David Smith	1171/42397/151-PCT-US	1452
279 7590 01/22/2008 Trexler, Bushnell, Giangiorgi, Blackstone & Marr, Ltd. 105 West Adams Street Suite 3600 Chicago, IL 60603			EXAMINER OSTRUP, CLINTON T	
			ART UNIT 3771	PAPER NUMBER
			MAIL DATE 01/22/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,132	Applicant(s) SMITH ET AL.	
	Examiner Clinton Ostrup	Art Unit 3771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/3/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 1-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/21/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-19 are pending in this application. Claims 20 & 21 have been cancelled.

Priority

The examiner acknowledges this application was filed as a United States National Phase Application of International Application Serial No. PCT/NZ03/00164 filed July 25, 2003, which claims priority from New Zealand Application No. 520513, filed July 31, 2002.

Claim Objections

Claims 1-19 are objected to because of the following informalities: In the claims, when the term "the" or "said" is used, the word following the term "the" or "said" must have proper antecedent basis. The terms "the" and "said" appear numerous times in the claims without proper antecedent basis for the limitations following the terms "the" and "said."

For example, Claim 1 recites the limitation "said flow of gas" in line 3, line 5 and line 6; however, there is insufficient antecedent basis for this limitation in the claim. Applicant has provided antecedent basis for "said flow of respiratory gas" and they are reminded to be consistent in their terminology. Claim 1 additionally lacks antecedent basis for "said transducer" however, applicant provides proper antecedent basis for "said temperature transducer." Claims 2, 3, 5, 6, 8, 9, 10, 11, 15, 16 and 19 are objected to for reasons analogous to those of claim 1. Appropriate correction is required.

Any remaining claims are objected to as depending from an objected base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 9-13, 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Gradon et al., (6,349,722).

Gradon et al., teach a flow probe for use in humidification systems and that the probe is to be positioned in a humidified gasses flow. Gradon et al. teach that the flow probe is designed to provide both temperature and flow rate sensing of the gasses by incorporating two sensors into the flow probe.

In regard to claim 1, Gradon et al., teach a sensor configured to determine a parameter of a flow of respiratory gas comprising: a temperature transducer (34), configured for positioning adjacent said flow of gas (Figure 3), a sensor housing (32) configured to house said transducer and provide a substantial pathogen barrier to said flow of gas; and a conductive path between said transducer and said flow of gas (the thin layer of plastic material between the thermistor and the gas flow).

Regarding claim 2, the sensor housing taught by Gradon et al., has a locator (46) to ensure said transducer is correctly positioned and/or aligned.

Regarding claims 4 & 5, Gradon et al., teach a conductive path that has a thermally conductive probe (thin plastic material between the thermistor and the gasses flow) and that the conductive path crosses said flow of gas (Figure 3).

Regarding claim 9, Gradon et al., teach a sensor housing (32) that has longitudinal axis substantially perpendicular to said flow of gas (Figure 3).

Regarding claim 10, Gradon et al teach a system for conveying a flow of respiratory gas comprising: a conduit (42) adapted to convey said flow of gases, a thermally conductive member extending from the interior of said conduit (34) in contact with said flow of gas (via the thin plastic material between the thermistor and the gas flow) to the exterior of said conduit, and an external engagement for a temperature sensor (38 & 40) engaging said member which does not protrude into said conduit.

Regarding claim 11, Gradon et al, teach a system for conveying a flow of respiratory gas according to claim 10 wherein said engagement (38 & 40) for a temperature sensor is adapted to ensure intimate contact of said exterior portion of said thermally conductive member and a temperature sensor.

Regarding claim 12, Gradon et al., teach a system for conveying a flow of respiratory gas according to claim 10 wherein said thermally conductive member (34) comprises a thermally conductive housing (32).

Regarding claim 13, Gradon et al., teach a system for conveying a flow of respiratory gas according to claim 10 wherein said thermally conductive member (34) comprises a thermally conductive probe (thin plastic material between the thermistor and the gases flow).

Regarding claim 16, Gradon et al., teach a system for conveying a flow of respiratory gases according to claim 10 wherein said engagement for a temperature sensor (34) is combined with an engagement for an electrical connection (38 & 40).

Regarding claim 17, Gradon et al teach a system for conveying a flow of respiratory gases according to claim 11 further comprising a temperature sensor (34) housed within a sensor housing (32).

Regarding claim 18, Gradon et al., teach a system for conveying a flow of respiratory gases according to claims 17 wherein said sensor housing (32) is combined with an engagement for an electrical connection (38 & 40).

Regarding claim 19, Gradon et al., teach a system for conveying a flow of respiratory gases according to claim 18 wherein said sensor housing (32) means has longitudinal axis substantially perpendicular to said flow of gases (Figure 3). See: col. 7, line 60-col. 11, line24 and Figures 1-5.

Claims 1-2, 4-5, 9-13, 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Koch (DE 3618614 A1) based on the machine translation provided by the European Patent Office.

Koch teaches a heat exchanger that allows for the sterilization of the heat exchanger without damaging the electrical components.

In regard to claim 1, Koch teaches a sensor configured to determine a parameter of a flow of respiratory gas comprising: a temperature transducer (7 & 8), configured for positioning adjacent said flow of gas (9), a sensor housing (25) configured to house said

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transducer and provide a substantial pathogen barrier to said flow of gas; and a conductive path between said transducer and said flow of gas (the electrical connections and the heating staff).

Regarding claims 2 & 3, the sensor housing taught by Koch has a locator (22) to ensure said transducer is correctly positioned and/or aligned and the sensor housing (25).

Regarding claims 4 & 5, Koch teaches a conductive path that has a thermally conductive probe (7 & 8) and that the conductive path crosses said flow of gas.

Regarding claim 9, Koch teaches a sensor housing (25) that has longitudinal axis substantially perpendicular to said flow of gas.

Regarding claim 10, Koch teach a system for conveying a flow of respiratory gas comprising: a conduit adapted to convey said flow of gases, a thermally conductive member extending from the interior of said conduit (7 & 8) in contact with said flow of gas (via (25)) to the exterior of said conduit, and an external engagement for a temperature sensor (11 & 13) engaging said member which does not protrude into said conduit.

Regarding claim 11, Koch teaches a system for conveying a flow of respiratory gas according to claim 10 wherein said engagement (11 & 13) for a temperature sensor is adapted to ensure intimate contact of said exterior portion of said thermally conductive member and a temperature sensor.

Regarding claim 12, Koch teaches a system for conveying a flow of respiratory gas according to claim 10 wherein said thermally conductive member (7 & 8) comprises a thermally conductive housing (25).

Regarding claim 13, Koch teaches a system for conveying a flow of respiratory gas according to claim 10 wherein said thermally conductive member (7 & 8) comprises a thermally conductive probe (25).

Regarding claim 16, Koch teaches a system for conveying a flow of respiratory gases according to claim 10 wherein said engagement for a temperature sensor (11 & 13) is combined with an engagement for an electrical connection (15).

Regarding claim 17, Koch teaches a system for conveying a flow of respiratory gases according to claim 11 further comprising a temperature sensor (7 & 8) housed within a sensor housing (25).

Regarding claim 18, Koch teaches a system for conveying a flow of respiratory gases according to claims 17 wherein said sensor housing (25) is combined with an engagement for an electrical connection (11 & 13).

Regarding claim 19, Koch teaches a system for conveying a flow of respiratory gases according to claim 18 wherein said sensor housing means (25) has a longitudinal axis substantially perpendicular to said flow of gases.

See: results pages 1-2 and drawing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 10 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch (DE 3618614 A1) as applied to claims 1-5, 7-13, 16-19 above and further in view of Makin (4,686,354).

Koch teaches a method of making and using a temperature sensor that allows for the sensing and of a parameter of a flow of respiratory gas, comprising a temperature transducer, a sensor housing configured to house the transducers and provide a substantial barrier to said flow of gas; and a conductive path between said transducer and said flow of gas. However, it lacks the conductive paths as claimed in claims 6 and 14-15.

Makin teaches a flexible delivery hose for use with a humidifier and that said flexible delivery hose comprises interconnecting temperature sensors arranged at each end of the flexible hose. The sensor housing is integrally molded into the conduit, thus meeting the specific limitation of claim 3. Moreover, Makin teaches that the flexible hose contains a heater cable wound spirally around the hose and that the hose can be sterilized and then reused. The hose is inclusive of a band that said flow of gas flows within, thus, Makin teaches the specific limitations of claims 6 and 15. See: col. 2, lines 16-56 and Figures 1-4.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the temperature sensor of Koch with a conduit with having temperature sensing means that wrap around both ends of the conduit as taught by Makin, because of the reasonable expectation of obtaining a temperature sensor that could monitor the temperature of the gas flow, both before and after flowing through the heater element and would therefore be useful in providing feedback control to the heater element.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Ashby (GB 2127299 A); Gradon et al., (6,272,933 B1); Gull et al., (6,138,674); Brickell et al., (4,164,220); Gull et al., (6,138,674 A); Clawson et al., (5,392,770 A); Seakins et al., (2002/0078733 A1) all of which disclose temperature monitoring devices for respiratory devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clinton Ostrup whose telephone number is (571) 272-5559. The examiner can normally be reached on M-F 7:30-5 pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Clinton Ostrup
Examiner
Art Unit 3771



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1/18/08